AR450 Wear Plate

OMEGA STEEL CO.
Istanbul · Dilovası plant

AR450 sits between the two classic wear classes: 420–475 HB, about 15 % more wear life than AR400 and noticeably tougher and more bendable than AR500. Truck-body and trailer builders moved to it because a 5–6 mm AR450 floor outlasts an 8 mm AR400 one at lower weight. We supply 6–30 mm from Hardox 450, Dillidur 450, XAR 450, Raex 450 and equivalent mills, plasma- and laser-cut at Dilovası.

420–475 HB | 6–30 mm | Bendable 3.5–4 × t | Truck-body grade | Hardox 450 class

AR450 is the grade that made the thin tipper body possible: hard enough to shrug off gravel and demolition waste, ductile enough to be folded into a body side in one piece. It has become the default over AR400 in transport and quarry equipment.

CHEMICAL COMPOSITION

Element	C	Si	Mn	P	S	Cr	Ni	Mo	B
max. % (ladle)	≤ 0.26	≤ 0.70	≤ 1.60	≤ 0.025	≤ 0.010	≤ 1.40	≤ 0.25	≤ 0.60	≤ 0.005

CEV about 0.40–0.50 depending on thickness; the higher carbon is what raises the hardness over AR400.

HARDNESS AND MECHANICAL PROPERTIES

Property	Requirement	Typical value	Note
Brinell hardness	420–475 HB	450 HB	EN ISO 6506-1
Yield strength Rp0.2	not guaranteed	≈ 1 200 MPa	
Tensile strength Rm	not guaranteed	≈ 1 400 MPa	
Elongation A5	—	≈ 10 %	
Charpy V	—	≈ 35 J at −40 °C	longitudinal
Max. service temperature	—	250 °C	

EQUIVALENT GRADES

System	Grade	Note
SSAB	Hardox 450	reference brand
Dillinger	Dillidur 450 V	
thyssenkrupp	XAR 450	
SSAB Raahe	Raex 450	
JFE	JFE-EH450	
GB/T 24186	NM450	Chinese mills

THICKNESS CHOICE FOR TRUCK BODIES AND BUCKETS

Application	AR450	Replaces	Weight saving
Tipper body floor, aggregates	5–6 mm	8 mm AR400 / 10 mm S355	≈ 30–45 %
Tipper body sides	4–5 mm	6 mm AR400	≈ 20–30 %
Demolition / rock body floor	8–10 mm	12 mm AR400	≈ 20 %
Loader bucket bottom	12–20 mm	15–25 mm AR400	≈ 15 %
Bucket side cutters, wear strips	20–30 mm	AR400 same	— (longer life)
Chute / hopper liners	6–12 mm	10–15 mm AR400	≈ 25 %

Savings assume equal wear life in sliding abrasion; with heavy impact keep the thicker AR400 or add wear strips.

STANDARDS

Mill specifications (Hardox 450, Dillidur 450 V, XAR 450, Raex 450, NM450) · EN ISO 6506-1 · EN 10029 · EN 10204 3.1

Updated 22 September 2026 · figures are nominal; the mill certificate governs